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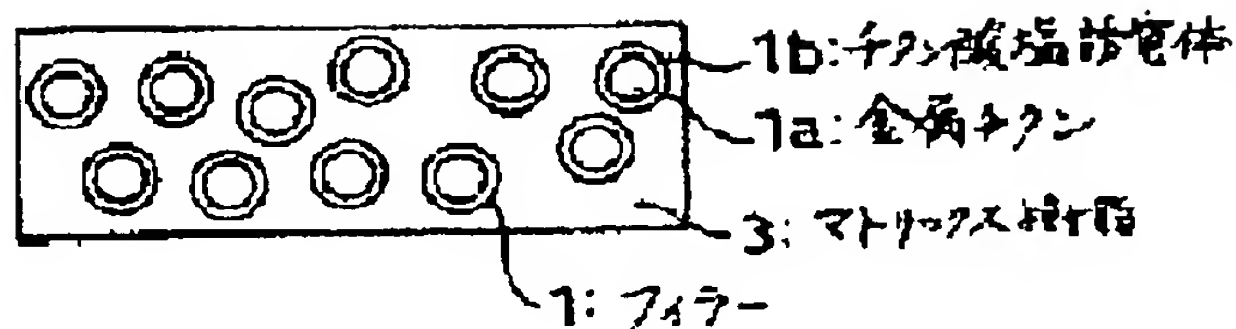
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TITLE : HIGH MOLECULAR COMPOSITE
DIELECTRIC SUBSTANCE



ABSTRACT : PURPOSE: To increase specific permittivity and decrease dielectric loss by diffusing dielectric material, as filler, which forms titanate acid dielectric coat on the surface of each powder of metal titanium power in a matrix made up of high molecular resin.

CONSTITUTION: Ti particles, as a filler, whose internal portion is metal Ti (1a) on whose surface BaTiO_3 (1b) as a ferroelectric substance is coated is made to be diffused in a medium of matrix resin 3 made up of high molecular resin so that a high molecular composite dielectric is formed. According to the high molecular composite dielectric of this constitution, it is a particle whose nucleus is Ti (1a) or a conductor, so that its resistance is very much low and therefore, a dielectric loss, $\tan \delta$, is very small. Although the shape of metal Ti which becomes nucleus is various, thin film can be formed; therefore, it is possible to form an anisotropic composite dielectric by forming such ferroelectric film as BaTiO_3 , etc., on the nucleus of, for example, Ti whisker. The composite dielectric, therefore, becomes high functional material with high permittivity, low dielectric loss and great mechanical strength.

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